

Application No. 10/596,151
Amdt. Dated: July 1, 2008
Reply to Office Action Dated: April 3, 2008

Amendments to the Drawings

The attached drawing sheet includes changes to Figure 1. The sheet including Figure 1, replace the original sheet including Figure 1. In Figure 1, text labels have been added to elements 7, 8 and 10.

Attachment: Replacement Sheet

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REMARKS/ARGUMENTS

The Examiner is thanked for the Office Action mailed April 3, 2008. The status of the application is as follows:

- Claims 1-20 are pending, claims 4, 6, 11 and 12 have been amended, and claims 13-20 have been added;
- The specification is objected to;
- The drawings are objected to;
- Claim 12 is rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter;
- Claims 4, 6, and 11 are rejected under 35 U.S.C. 112, second paragraph;
- Claims 1 and 9-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Flohr et al. (US 6,381,487);
- Claims 2-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flohr et al. in view of Rasche et al. (WO2002/103639 A2).
- Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flohr et al. in view of Taguchi et al. ("High temporal resolution for multislice helical computed tomography", 2000, Medical Physics, Volume 27, Number 5, Pages 861-872).
- Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flohr et al. in view of Bruder et al. (US 2003/0072419).
- Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flohr et al. in view of Hsieh (US 6,529,575).

The objections and rejections are discussed below.

The Objection to the Specification

The specification is objected to for references to claims 1-12 on pages 3-4, which may create discrepancies and new matter issues if future claim amendments were to be made. This rejection should be withdrawn as the specification has been amended to remove the references to the claims.

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The Objection to the Drawings

The drawings are objected to for unlabeled rectangular boxes 7, 8 and 10 shown in Figure 1. This rejection should be withdrawn because Figure 1 has been amended to include text labels for the boxes 7, 8 and 10.

The Rejection of Claim 12 under 35 U.S.C. 101

Claim 12 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. As suggested by the Office, claim 12 has been amended herein to include a computer program embodied on a computer readable storage medium. As such, this rejection should be withdrawn.

The Rejection of Claims 4, 6, and 11 under 35 U.S.C. 112, Second Paragraph

Claims 4, 6, and 11 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection should be withdrawn as the subject claims have been amended as suggest by the Office by replacing the term "if" with the term "when" in claim 4, cancelling the term "especially" in claim 6, and cancelling the phrase "especially an electrocardiograph" in claim 11.

The Rejection of Claims 1 and 9-11 under 35 U.S.C. 102(b)

Claims 1 and 9-11 stand rejected under 35 U.S.C. 102(b) as being anticipated by Flohr et al. This rejection should be withdrawn because Flohr et al. does not teach each and every element as set forth in the subject claims and, therefore, does not anticipate claims 1 and 9-11.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987). MPEP §2131.

Independent **claim 1** is directed towards a method including, *inter alia*, reconstruction of a computer tomography image of the object from the measured values, wherein only measured values whose acquisition times lie within the periods in time intervals are used, which are so

determined that a similarity measure applied to intermediate images of a same subregion of the object is minimized, wherein different intermediate images are reconstructed using measured values from time intervals from different periods. In other words, claim 1 requires that each intermediate image be reconstructed with measured values from a time interval in a corresponding different period and that the similarity measure be performed on two such images. Flohr et al. does not teach or suggest these claim aspects.

The Office cites column 3, line 59 to column 4, line 7, column 4, lines 31-49, and Figures 3 and 4 as teaching the above noted claim. However, the cited sections of Flohr et al. relate to reconstructing data in a same time period in order to locate a resting phase time interval within that time period. More particular, column 3, line 59 to column 4, line 7, states that images allocated to immediately successive points in time in a time period are reconstructed and that it is assumed that only data from the resting phase time interval of that time period contributed to such images. Figures 3-4 illustrate different time periods T_{RR} with different resting phase time intervals ΔT . Column 4, lines 31-49, which describes Figures 3-4, provides a formula for determining a location of a resting phase time interval ΔT within a time period T_{RR} . Moreover, column 4, lines 64-67, of Flohr et al. further notes that in addition to selecting images within a same time period T_{RR} to determine the resting phase time interval ΔT for that time period T_{RR} , automatic analysis can be used to determine parameters in the formula. Column 4, line 66, to column 5, line 7, further notes that apart from the automatic analysis, an automatic interpretation of the reconstructed images in the time period T_{RR} can be performed to allocate images to the resting phase time interval ΔT of the time period T_{RR} based on a difference between succeeding images.

In view of the foregoing, it is readily apparent that Flohr et al. discloses an approach for determining a resting phase time interval within a period based on images reconstructed from data from that period, and does not teach or suggest reconstructing intermediate images, each with measured values from a time interval from a corresponding different time period. As such, Flohr et al. does not teach or suggest all the aspects of claim 1, and thus does not anticipated claim 1. Therefore, the rejection of claim 1 should be withdrawn.

Claims 9-11 directly or indirectly depend from claim 1 and are allowable at least by virtue of their dependencies.

The Rejection of Claims 2-5 and 8 under 35 U.S.C. 103(a)

Claims 2-5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flohr et al. in view of Rasche et al. This rejection should be withdrawn because the combination of Flohr et al. and Rasche et al. does not teach or suggest all the limitations of the subject claims and, therefore, fails to establish a *prima facie* case of obvious with respect to the subject claims.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, (CCPA 1974). MPEP §2143.03.

With respect to **claim 2**, which depends from claim 1, the Office relies on Rasche et al. to teach acts ii) and iii). However, Flohr et al. discloses using images generated with data from a same time period to locate a rest phase time interval within the same time period, as discussed above, whereas Rasche et al. compares images that are each reconstructed with data from phases in multiple different time periods. As such, there is no motivation to modify Flohr et al. with the teachings of Rasche et al. as the basic principle under which the Flohr et al. is designed to operate, comparing images reconstructed with data from the same time period, would have to change in order to compare images that are each reconstructed with data that spans different time periods as taught in Rasche et al. (See MPEP 2143.01 VI. THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE). Hence, this rejection is improper and should be withdrawn.

Moreover, assuming *arguendo* that the references were combinable (and they are not), the combination would not teach or suggest claim 2. Acts ii) and iii) require generation of a first intermediate image from data exclusively from a first period and generation of a second intermediate image from data exclusively from a second different period. As discussed above, in Flohr et al., the images being compared are each reconstructed from data from intervals in the same time period, and in Rasche et al., the images being compared are each reconstructed from data from intervals in different time periods. Hence, the combination would not teach or suggest comparing images in which a first image is reconstructed with data exclusively from a first period and a second image is reconstructed with data exclusively from a second period.

Accordingly, this rejection should be withdrawn.

Application No. 10/596,151
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Claims 3-5 and 8 depend from claim 1 and are allowable at least by virtue of their dependencies.

Other Claims

Claims note addressed above directly or indirectly depend from claim 1 and are allowable at least by virtue of the dependencies

New Claims 13-20

Newly added claims 13-20 emphasize various aspects. No new matter has been added. The aspects of these claims are absent from the prior art of record. Entry and allowance of claims 13-20 is respectfully requested

Conclusion

In view of the foregoing, it is submitted that the claims distinguish patentably and non-obviously over the prior art of record. An early indication of allowability is earnestly solicited.

Respectfully submitted,



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